CLAIMS:

1. Arrangement for recovering a first digital signal (7,31) from a digital input signal (20), the arrangement comprising:

- a digital filter (29) for filtering the digital input signal (20);
- a digitally controlled oscillator 28 for generating a digital reference signal (21); and
- a digital phase detector (22) for determining a phase difference (25) between the filtered digital input signal (27) and the digital reference signal (21);

in which the first digital signal (7,31) is recovered by adding the determined phase difference (25) to the phase of the digital reference signal (21).

2. Arrangement according to claim 1, wherein an offset value (23) is added to the phase of the recovered first digital signal (31) to compensate a filter delay of the digital filter (29).

3. Arrangement according to claim 1, wherein the arrangement comprises a first digital mixer (30) for frequency down-conversion of the digital input signal (20) before filtering.

4. Arrangement according to claim 3, wherein the first digital mixer (30) uses the digital reference signal (21) as a mixing signal.

5. Arrangement according to claim 1, wherein the digital input signal (2) is a stereo multiplex signal and the recovered first digital (31) signal is a pilot signal (7).

6. Arrangement according to claim 5, wherein a phase of a pilot signal is multiplied (26) with a multiplication factor to recover a second digital signal (32).

7. Arrangement according to claim 6, wherein the second digital signal (32) is a suppressed carrier signal (9) of the stereo multiplex signal.

8. Arrangement according to claim 5, wherein the arrangement further comprises a stereo decoder (42) for decoding the stereo multiplex signal into at least a first (L) and a second (R) signal.

9. Arrangement according to claim 8, wherein the stereo multiplex signal comprises a sum signal (1) and a difference signal (3), the first signal (L) being decoded by adding (56) the sum signal to a frequency down-converted difference signal, the second signal (R) being decoded by subtracting (54) the frequency down-converted difference signal from the sum signal.

10. Arrangement according to claim 9, wherein the difference signal (3) is frequency down-converted by means of the recovered suppressed carrier signal (9,32).

11. Arrangement according to claim 10, wherein the phase offset value (23) is further arranged to control the amplitude of difference signal (57).

12. Receiver comprising an arrangement for recovering a first digital signal (7,31) from a digital input signal (20), the arrangement comprising:

- a digital filter (29) for filtering the digital input signal (20);
- a digitally controlled oscillator 28 for generating a digital reference signal (21); and
- a digital phase detector (22) for determining a phase difference (25) between the filtered digital input signal (27) and the digital reference signal (21);

in which the first digital signal (7,31) is recovered by adding the determined phase difference (25) to the phase of the digital reference signal (21).

13. Radio (61) comprising an arrangement for recovering a first digital signal (7,31) from a digital input signal (20), the arrangement comprising:

- a digital filter (29) for filtering the digital input signal (20);
- a digitally controlled oscillator 28 for generating a digital reference signal (21); and
- a digital phase detector (22) for determining a phase difference (25) between the filtered digital input signal (27) and the digital reference signal (21);

in which the first digital signal (7,31) is recovered by adding the determined phase difference (25) to the phase of the digital reference signal (21).

14. Computer programming product for recovering a first digital signal (7,31) from a digital input signal (20), the arrangement being arranged to perform the steps of:

- filtering the digital input signal with a digital filter (29);
- generating a digital reference signal;
- determining a phase difference (25) between the digital input signal (20) and the digital reference signal (21); and
- digitally add (24) the determined phase difference (25) to the phase of the digital reference signal (21) to recover the first signal (7,31).